

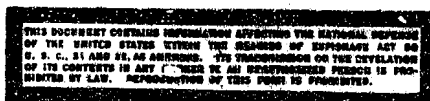
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MECHANIZATION OF SNOW CLEARING AT SECTOR AND JUNCTION
 STATIONS ON THE NORTHERN RAILROAD SYSTEM

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Last winter, measures were taken at the sector and junction stations of the Northern Railroad System to improve the utilization of the Gavrichenko snow-clearing machine and the special snow-leveling and ice-breaking flatcars.

The Gavrichenko machine was connected to a special snow-clearing train. In addition to this machine, a locomotive, a grader, a leveling flatcar and three other cars made up the train. The three cars were for quartering personnel and storing spare parts.

The train was under the management of the Track Service. In accordance with instructions, it was sent to the stations having difficulty in clearing snow. The train was manned by personnel working in three shifts.

The train's grader was used to push snow to the sides and to break through snow banks. It was usually operated in conjunction with a snow plow.

The leveling flatcar cleared snow from between the tracks, throwing it up on the tracks, from where the Gavrichenko machine removed it. The leveler operating by itself gave a lateral clearance of 6 meters, and in conjunction with a snow plow, a clearance of 8 meters.

In normal operation, the Gavrichenko machine made 17 trips per 24-hour day, removing 4,000 cubic meters of snow.

Flatcars built for leveling ballast left over from the construction of second tracks were utilized as leveling flatcars. Due to their light construction, they had not been suited to ballast leveling, but proved to be ideal for snow-clearing operations.

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The leveling flatcar has upright supports attached to its ends at the center of the car. On each side of the car, a 5-meter blade is attached to the supports. Raising and lowering of the blades is effected by a winch on the drum of which the cables attached to both blades are wound.

In clearing the snow from between two tracks, the blades are set at an angle of 45 degrees and held in that position. The leveling flatcar is loaded with ballast or rails for stability.

When operating with snowplows, the leveling flatcar rolls the snow from the tracks down the grade to either side of the track, or into the space between two tracks where such space is wide, making the leveler an extremely useful machine for any sector station.

The leveler is also very useful in doing away with snow banks after the passing of snow plows.

At the suggestion of F. V. Konev, a mechanic at the 12th Track Sector, an ice-breaking flatcar was employed for chipping up ice and packed snow at Vologda Station No 1. The ice-breaking flatcar is made up of two main units, a device for chipping up ice and crushing it, and a device for clearing away the crushed ice and snow.

The ice-breaking flatcar is based on the western-European-type 4-axle flatcar. A shaft with spikes attached to it chips up the ice. The shaft is raised by a winch mounted on the platform of the flatcar with a cable attached to the shaft. Strain incurred in chipping up the ice is transferred from the shaft through two braces onto a special supporting device on the frame of the flatcar.

The mechanism for clearing the tracks of snow and crushed ice is similar to that of a single-track snow plow. The car is operated by two workers under the supervision of a foreman.

Operations are carried on as follows: In the first pass the flatcar, moving at a speed of 5 - 10 kilometers per hour, breaks the ice and packed snow to a depth of 7 centimeters from the tops of the rails and cuts a lane 2.6 meters wide. In the second pass, the flatcar operates as a plow at a speed of 15 kilometers per hour.

The special snow-clearing train and the use of leveling and ice-breaking flatcars made it possible for the Northern Railroad System to handle its snow-clearing problems successfully and to save 30 - 50 percent on labor and material expenses.

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